2012 Michigan Environmental Compliance Conference

Richard (Dick) Savage, RETAP Engineer RETAP-RETAF 248-478-8030 retafmi@retaf.org



Pollution Prevention (P2) Recommendations

Introduction

Broad Based / Common Recommendations

Pollution Prevention – General Recommendations

- Environmental Affairs Team
- Green Purchasing Program
- Continuous Improvement Program

Pollution Prevention – Hazardous Waste Recommendations

- Recycle Universal Wastes
- Recycle Electromagnetic Ballasts, Aerosol Cans, Solvents, etc.
- Reduce Pesticide and Herbicide Use
- Materials Exchange Services

Pollution Prevention – Liquid Waste Recommendations

- Recover Oil for Recycling or Energy Recovery
- Recycle Coolants
- Reuse Treated Wastewater
- Implement Green Cleaning Practices

Pollution Prevention - Solid Waste Recommendations

- Conduct Waste Audit / Analysis
- Establish Local Recycling Partnerships
- Reduce Packaging
- Composting & Chipping

Pollution Prevention – Water & Sewer Recommendations

- Install Water Conservation Equipment
- · Reuse Treated Wastewater
- Consider Water Efficient Landscaping
- Use Rainwater & Irrigation Controls

Waste Related Cost Saving Opportunities

- Reduce Dumpster Size & Pulls
- Bale Cardboard
- Bid Out Waste / Recycling Contracts
- Waste Oil Burners

Energy Efficiency – General Recommendations

- Technical Analysis of Utility Bills
- Establish Energy Improvement Process & Set Goals
- Implement Energy Star Purchasing Program

Energy Efficiency – Basic Recommendations

- Exit Signs, Vending Machines, Coffee Makers, etc.
- Reduce / Control Office Loads
- Set Heating / Cooling Controls
- Clean AC Cooling Fins
- Weatherize & Add Insulation

Energy Related Cost Saving Opportunities

- Address Power Factor and Peak Demand
- · Correct Utility Rates
- Apply for Utility Rebates
- Correct Manufacturers Sales Tax Exemption
- Evaluate Alternative Gas Providers

Energy Efficiency – Lighting Recommendations

- Conduct Lighting Audit
- Eliminate Unneeded Lights & Address Storage Areas
- Use CFL & LED lighting
- Replace T12 and Metal Halides with T8 or T5 Lights
- Employ / Check Lighting Sensors & Controls

Energy Efficiency – Compressed Air Recommendations

- Institute Leak Detection & Repair Program
- Reduce Pressure to Minimum
- Lower Intake Pressure
- Recover Waste Heat
- Loop System

Energy Efficiency – Heating & Cooling Recommendations

- Landscape for Windbreaks and Solar Gain
- Weatherize, Seal Duct Work & Add Insulation
- Set Programmable Thermostats
- Purchase High Efficiency Systems, Doors, Windows, etc.
- Clean Infrared Heaters
- Continuous Commissioning

Energy Efficiency – Water Heating Recommendations

- Routine Maintenance
- Employ Water Conservation Equipment
- Lower Water Temperature
- Use Setback Controls and Circulation Pump Controls
- Insulate Piping and Install Blanket
- Purchase High Efficiency Models
- Evaluate Point of Use Systems, Alternative Systems, and Drain Water Heat Recovery

Contact RETAP

- RETAP Manager: 800-662-9278 or herbd@michigan.gov
- RETAP Contractor: 888-749-7886